



A Flour Primer

There are many types of flour and many types of wheat flour. Each has been developed for certain purposes and each has a distinct use. A baker will need certain flour and any recipe will be set to a certain flour for a specific reason. Ask any Pizza Shop owner and they will be very firm as to what flour to use, with no substitutes.

Wheat flour contains proteins called Gluten and Gliadin. Other flours contain some gluten, but in marginal quantities. Generally it is the amount of protein in the flour, which will develop into strands which will enable the dough to rise with the carbon dioxide produced by the yeast fermentation. Very small differences in the amount of protein will change the characteristics of the dough dramatically.

Here are a few definitions of words associated with wheat flour:

Hard Wheat Spring Flour Used for high gluten and bread flours

Soft Wheat Winter Flour Used for cake and pastry flours, blended for All Purpose flour

Enriched Minerals added to compensate for the loss of bran in milling, including thiamine, Niacin, riboflavin, and folic acid

Bleached Treated with chlorine to whiten the flour and strengthen the gluten (protein)

Bromated Enriched with Potassium Bromate to promote gluten development

Malted Sprouted Barley syrup is added to help yeast development

Here are some specific protein level percentages for some of the flours that Ginsbergs carries:

Sir Lancelot (<i>King Arthur</i>)	14.2%
All Trumps (<i>General Mills</i>)	14.2%
Hummer (<i>Progressive</i>)	14.0%
Bread Full Strength Superlative (<i>General Mills</i>)	12.6%
All Purpose and H&R flour	11%
Purasnow Cake Flour	8.2%, <i>Soft Wheat</i>
Pastry Golden Shield (<i>General Mills</i>)	9.2%, <i>Soft Wheat</i>
Durum Patent from <i>Durum Wheat</i>	12.4%, <i>fine grind for pasta</i>
Semolina from <i>Durum Wheat</i>	12.7%, <i>granular product for pasta</i>
Stone-ground Whole Wheat	13.8%
Wondra <i>Specially extra fine grind, sauces, gravies or breading</i> ...	10.5%

Working with Gluten in Bread Dough

High gluten flours are used for bread, rolls and pizza dough. The brand and protein level of the flours are prized by Bakers and Pizza Makers, since their recipes are developed over time to be easy to use and to yield a consistent product. In general, a good dough maker can work with several different flours, such as All Trumps or Hummer, and come out with the same dough with the same level of gluten developed in the dough. However, when a shop has several people making dough, they will want to use the exact same product with the same protein level to insure that the dough will be consistent, no matter what day of the week or no matter who is making the dough.

There are several ways to develop gluten in any dough. Beating the wet, raw dough is the usual method, the longer the dough is worked the more gluten is developed and the tougher it becomes. A very high gluten dough is needed for say, thin crust pizzas. This same dough may yield a very tough dinner roll, however. In that case a Full Strength, Bread, All Purpose, or Patent flour is needed.

Another method of developing gluten is to use a sponge. In this method, a very watery dough with extra yeast, more sugar (yeast food) and no salt is started and allowed to ferment for a long time, even overnight. Salt would kill the yeast in this case. The liquid may be water, with some milk or other wet ingredients added. Using a sponge allows the wet dough to rise on its own, creating gluten strands without the use of a commercial mixer. More flour is added after the sponge has risen and the dough is worked in the usual manner. A good high gluten dough may be created using this method with only hand kneading on a bench.

Sour Dough breads are created using a sponge method, with a specific flavor included in the sponge, a sour. This can be a commercial product added just for flavor, or the sour mix saved from previous doughs. Sours were originally made for traveling people, who would save some of the original sour used in bread baking, to start the next batch. The same flavor is kept in this method, for the same yeast is cultivated each time more liquid and yeast food is added to the sponge.

There are many additions to dough which will affect the gluten level available and thus change the actual abilities of the dough to perform. Milk, eggs, sugars, oils and other flours will change a dough dramatically and the formula will have to be changed to enable the dough to perform as needed. Oils in general will affect the gluten strands by shortening them. Thus, in baking, oils are called "shortening".

Using lower gluten flours, such as whole wheat, rye, or other additions such as bran, seeds and nuts will change the dynamic of the flour by their weight. Generally compound breads have a basic formula of say 40% or so high gluten flour, in order to develop enough gluten strands to carry the other ingredients. A good basic bread or roll dough will have weights stated for the basic gluten dough and any additions may be made to that formula.

BASIC BREAD OR ROLL DOUGH

makes 4 loaves or 4 dozen rolls

3 oz. fresh yeast
1 1/4 cup water
4 oz. honey
2 cups milk
1 oz. salt
4 oz. shortening
2 lbs. whole wheat flour
12 oz. bread flour

In a large bowl, mix the yeast with the (warm) water and the honey and allow to start working. Add the (warmed) milk, salt and shortening and mix well. At this point you would add any special flavorings to the bread, such as olives, spices, nuts or whatever. Add the flour and beat with a dough hook or knead by hand until the dough has toughened and the gluten strands have started to develop. Cover and allow to rise to double size, an hour or two.

Punch down once, recover and allow to rise again for 20 minutes. Deposit on a lightly floured bench and divide into loaf or roll sizes. Form into whatever shapes you want, cover and allow to rise double. Remove to sheet pans with parchment paper or to greased bread pans. Brush with a very light egg wash or water and garnish if desired.

Bake at 350°F or 300°F convection for about 40 minutes or until the bread sounds hollow when thumped. Allow to cool completely before slicing.

GARNISH IDEAS:

Oatmeal Flour Sesame Seeds Black Sesame
Seeds Poppy Seeds Rosemary Garlic Sun-dried
Tomatoes Chopped olives Wheat Germ Cracked
Wheat Corn meal

CIABATTA BREAD

makes 8 loaves

Sponge

1 Tbsp. dry yeast
2 cups water, 90°F
3 cups bread flour

Bread

1 Tbsp. dry yeast
6 oz. milk, warmed
2 cups water, 90°F
2 Tbsp. olive oil
6 cups bread flour
1 1/2 Tbsp. salt

Mix the first water and yeast and allow to sit for a few minutes or until well dissolved. Add flour to this mixture, making a paste. Cover with plastic or a cloth and allow to sit for a day at room temperature.

In a separate large bowl; add the second yeast to milk, which should be warm to the touch, not hot. Add the water, olive oil and the original sponge to this mix and blend well. Add 3 cups of flour and salt; beat for a few minutes at low speed with a dough hook. Add the remaining flour while beating. Hold some back, as it may not take it all. The dough should be soft and sticky, just enough to handle but difficult to handle. Place in an oiled bowl, cover and let stand at room temperature for an hour or until it has risen nicely.

Place the dough on a lightly floured surface and divide into 8 equal portions. Form into loose rectangles, about 10" by 4". Cover and allow to rest and rise for an hour or so. Cover a sheet pan with parchment paper and carefully place the loaves on the pan, well separated, upside down from where they were on the bench.

Bake at 400°F or 350°F convection oven, for 25-30 minutes. Brush or spray with water several times lightly during the first 10 minutes of baking. Allow to cool. After baking, either serve fresh or put in the freezer. Do not refrigerate, as it will stale it up promptly.

This bread may be flavored or garnished just before baking. Spray or brush with a little water and coat with chopped garlic, spices, herbs, sundried tomatoes, or whatever you want, to personalize the loaf.



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